Amendment

In the Specification

Please amend the paragraph beginning on line 1, page 6 as indicated.

It is well known that nucleotides include a nitrogen-containing base. This nitrogen-containing base can be a purine or pyrimidine base. Purine bases include adenosine ("A"), guanosine ("G"), hypoxanthine, and xanthine. Pyrimidine bases include thymine ("T"), cytosine ("C"), uracil ("U"), and orotic acid. It will be appreciated that the single letter abbreviations refer to the base or the nucleotide incorporating the specific base. Uracil is found only in RNA, and thymine is found in DNA. The standard or canonical Watson-Crick base pairs are A-U(T) and G-C. Thus, conventional polynucleotide extension reactions include nucleotide reaction mixtures having four different types of nucleotides, ~~each with a different nitrogen-containing base~~ A, T, G, and C, to insure that each nucleotide in the template polynucleotide strand has its complementary base pair available in the extension reaction mixture. Without a complementary nucleotide in the reaction mixture to base pair with each nucleotide in the template strand, the extension reaction will stop at the nucleotide in the template strand that does not have its canonical base pair nucleotide present in the reaction mixture.

Please amend the paragraph beginning on line 14, of page 6 as follows.

In one embodiment, the extension reaction mixture is formulated to prevent canonical base pairing with at least one nucleotide in the template polynucleotide. The extension reaction

mixture includes a nucleotide mixture, for example a non-terminator nucleotide mixture. More particularly, the extension reaction mixture can be selected to include non-terminator nucleotides having two different a purine ~~bases~~ nucleotides in combination with ~~nucleotides having the same~~ a pyrimidine ~~base~~ nucleotide or ~~nucleotides having~~ at least two different pyrimidine ~~bases~~ nucleotides in combination with ~~nucleotides having the same~~ a purine ~~base~~ nucleotide. Typically at least two nucleotides are added to the primer during the primer extension reaction, more typically about 3 nucleotides to about 20 nucleotides are added, even more typically at least 6 nucleotides are added to the primer. The primer itself is typically at least about 6 nucleotides in length but can vary in length from about 6 nucleotides to about 100 nucleotides, typically about 10 nucleotides to about 25 nucleotides, even more typically from about 15 to about 20 nucleotides in length.

Please amend the paragraph bridging pages 6 and 7 as follows.

In another embodiment, the non-terminator nucleotide mixture includes nucleotides consisting of X, Y, and Z, wherein X and Y are different purine non-terminator nucleotides, and Z is a pyrimidine non-terminator nucleotide; or X and Y are different pyrmidine non-terminator nucleotides, and Z is a purine non-terminator nucleotide. Exemplary non-terminator nucleotide mixtures with nucleotides having at least two different pyrimidine ~~bases~~ nucleotides and one purine ~~base~~ nucleotide include: C and T; C and U; or T and U; in combination with A or G. Exemplary extension reaction mixtures ~~with nucleotides~~ having two different purine ~~bases~~

nucleotides and one pyrimidine ~~base~~ nucleotide include: A and G in combination with at least one nucleotide selected from C, T or U. Alternatively, the reaction mixture includes a terminator nucleotide such as a dideoxynucleotide.

Please amend the paragraph beginning on line 17 of page 18 as indicated.

As used herein, the phrase "high stringency hybridization conditions" refers to nucleic hybridization conditions, such as but not limited to a wash condition of 0.1 x ~~times.~~ SSC, at 42° ~~degree.~~ C. Hybridization conditions generally can be found in general Molecular Biology protocol books, such as Ausubel et al., Current Protocols in Molecular Biology Greene and Wiley, pub. (1994), which is incorporated herein by reference in its entirety.